

AMENDMENTS TO THE DRAWINGS

The attached sheets of drawings include changes to FIG. 7 and FIG. 8. The first sheet, which includes only FIG. 7, replaces the original sheet, which also included only FIG. 7. In FIG. 7, previously omitted phantom lines, showing the assembly of the exploded view, have been added. The second sheet includes FIG. 6 and FIG. 8. In FIG. 8, the leader line from reference numeral 304 has been amended to indicate the worm wheel, referenced in the specification.

Attachment: 1 Annotated sheet showing changes to FIG. 8.
2 Replacement Sheets

REMARKS/ARGUMENTS

This amendment is being filed in response to the Office Action mailed December 14, 2004. As of the Office Action of December 14, 2004 claims 1-28 are pending with claims 23-28 being allowed, claims 1, 5-7, 9, 13, 15-18 and 20-22 standing rejected, and claims 2-4, 8, 10-12, 14 and 19 being objected to. Reexamination and reconsideration of the application as amended and in view of the remarks herein is respectfully requested.

As an initial matter, Applicants would like to thank the Examiner for recognizing the allowable subject matter of claims 2-5, 7-12, and 14-28.

Amendments to the Specification

The Cross-Reference to Related Applications, beginning on page 1, line 5, has been amended to indicate that the parent application Serial No. 10/061,940 has issued as U.S. Patent No. 6,736,233, as requested by the Examiner.

In the Brief Description of the Drawings, the description of FIG. 1, beginning on page 3, line 11, has been amended to properly recite "electronic parking brake actuator" as the basis for the acronym EPBA, as recited on page 4, lines 5-6. Accordingly, no new matter is believed entered. Applicants respectfully request that this objection be withdrawn upon reconsideration.

On page 5, the specification has been amended at line 29 to recite "printed circuit board" as the basis for the acronym PCB. PCB is the common acronym for printed circuit board and would be readily understood as such, especially in the context of the sentence, which reads, in part, "connector pins may provide electrical connections to a PCB, which may include motor control and position sensing electronics". Accordingly, no new matter is believed entered by this

amendment. Withdrawal of this objection in view of the foregoing amendment and comments is respectfully requested.

In the specification, the paragraph beginning on page 8, line 21 has been amended to replace the reference numerals 202b and 204b with the reference numerals 302b and 304b as shown in FIG. 8 of the drawings. No new matter is believed entered by this amendment.

In the specification the paragraph beginning on page 8, line 23 has been amended to remove the recital of reference numeral 900. No new matter is believed entered by this amendment.

Objections to the Drawings

FIG 7 has been amended to include phantom lines indicating the assembly of the exploded view, as requested by the Examiner. No new matter is believed entered by this amendment. In view of the amendment to the drawings, Applicants respectfully request that the objection to FIG. 7 be withdrawn upon reconsideration.

The drawings were also objected to because reference numerals 202b and 204b, recited in the specification, are not included in the drawings. The specification has been amended on page 8, line 21 to correct the minor clerical error whereby the reference numerals were misstated. Page 8, line 21 of the specification has been amended to properly recite “a worm gear 302b and worm weal 304b” as indicated in FIG. 8. No new matter is believed entered by this amendment. Applicants respectfully request that this objection to the drawings be withdrawn upon reconsideration. Furthermore, FIG. 8 has been amended to extend the leader line of reference numeral 304b to more clearly indicate the worm wheel. This aspect of the drawing was clearly shown in the originally filed informal drawings. Accordingly, no new matter is believed entered.

The drawings were also objected to because reference numeral 900, recited on page 8, line 25 of the specification is not in the drawings. The specification has been amended remove the recital of reference numeral 900 on page 8, line 25. The relevant drawing, FIG. 9, is a block diagram illustrating benefits of isolating a motor in an actuator. As such attributes of a motor, e.g., motor mass, motor inertia, etc., are described elements. The context of the drawing does not include the motor as an illustrated element. Applicants respectfully request that this object be withdrawn upon consideration of the amendment to the specification.

Finally, the drawings were objected to because FIG. 7 is turned sideways to the view in FIG. 3, and FIG. 6 is turned upside to the view of FIG. 3. Applicants respectfully submit that the orientations of the various figures have been selected to best illustrate various aspects of an actuator consistent with the disclosed subject matter. Additionally, Applicants believe that a person having ordinary skill in the art should be able to recognize the changes in orientation and appreciate the corresponding attributes of the various drawings. Applicants respectfully submit, therefore, that no changes to the drawings are necessitated by the selection of view chosen for the various figures. It is respectfully requested that this objection be withdrawn upon reconsideration by the Examiner.

Rejections Under 35 U.S.C. §112

Claim 5 was rejected as indefinite because it was unclear what “a first portion” and “a second portion” referred to. Claim 5 has been amended to recite, in part, “said component isolator comprises a first portion and a second portion”. Applicants believe that this amendment clarifies that “a first portion” and “a second portion” are first and second portions of the

component isolator. It is respectfully requested that this rejection be withdrawn upon consideration of the amendment to claim 5.

Claims 7 and 9 were rejected under 35 U.S.C. §112, second paragraph, for the stated reason that the term “component isolator” is unclear, particularly as to what the “component” is. Applicants submit that claim element “component isolator” is not a separable term. Rather a component isolator is an element “having a spring constant and a damping constant” as recited in claims 7 and 9. In the invention of claim 7 the component isolator is coupled between the motor and the sub-frame. In the invention of claim 9 the component isolator is coupled between at least one planetary gear set and the sub-frame. Applicants believe the term “component isolator” would be clear in view of the specification as filed. It is respectfully requested that the rejection of claims 7 and 9 under §112 be withdrawn upon reconsideration.

Claim 15 was rejected under 35 U.S.C. §112, second paragraph, as being an incomplete sentence. Claim 15 has been amended, in part, to replace the word “separating” with --separate--, as suggested by the Examiner. As amended, claim 15 forms a complete sentence. Applicants respectfully request that this rejection be withdrawn upon consideration of the foregoing amendment.

Claims 15 and 16 were also rejected for the asserted reason that it is unclear what is meant by “cooperation between said housing and said sub-frame separate said motor from a remainder of said actuator”. Applicants respectfully submit that claims 15 and 16 are clear in view of the common meaning of the words, e.g., the common meaning of cooperation being to work together, and in view of the specification which provides exemplary embodiments consistent with the claims.

Claim 13, upon which each of claims 15 and 16 ultimately depend, recites “an electro-mechanical actuator comprising a motor ... a gear train ... and a sub-frame”. Claim 16 further recites “an actuator housing ... defining a motor cavity receiving at least a portion of said motor” and further that “cooperation between said housing and said sub-frame separate said motor from a remainder of said actuator.” Accordingly, at least a portion of the motor is received in the cavity of the actuator housing and the housing and the sub-frame work together to separate the motor from the remainder of the actuator, i.e., from at least the gear train. For example, in the illustrative embodiment described on page 9, lines 5-10, a motor isolation cavity may be defined by a cavity defined by the main housing 301 and a cover to the cavity may be provided by the sub-frame 312, which may cover the top of the isolation cavity when installed in the housing.

In a similar manner to separation of the motor from the remainder of the actuator recited by claim 16, claim 15 recites a structure in which a planetary gear set of the actuator is separated from the remainder of the actuator. Claim 15 provides “an actuator housing defining a cavity ... receiving at least a portion of said planetary gear set”. Claim 15 further provides that “cooperation between said housing and said sub-frame separate said planetary gear set from a remainder of said actuator.” Accordingly, at least a portion of the planetary gear set is received in the cavity and the cavity and the sub-frame work together to separate the planetary gear set from the remainder of the actuator, i.e., from at least the motor.

In view of the foregoing, Applicants respectfully submit that the meaning of claims 15 and 16 are clear and understandable. Accordingly, Applicants respectfully request that the rejection of the claims under 35 U.S.C. §112, second paragraph, be withdrawn upon reconsideration.

Claim 17 was also rejected under 35 U.S.C. §112, second paragraph, as being indefinite. Specifically, the Examiner found it unclear what part of the invention is the “first motor isolator”. As stated in claim 17, the first motor isolator is an element having a spring constant and a damping constant. In one embodiment consistent with the claimed invention, an isolator may “mechanically isolate[] the motor from the mass of the actuator housing 910, thereby reducing air born audible noise associated with motor vibration.” See, e.g., page 8, lines 23 through page 9, line 2. Accordingly consistent with the express language of the claim and the written description, the motor isolator of claim 17 is an element having a spring constant and a damping constant and is disposed between the sub-frame and the motor. Consistent with the disclosure, the isolator may reduce transmission of vibration from the motor to the remainder of actuator components. See, e.g., page 9, lines 11-18. In view of the foregoing, Applicants respectfully submit that the term “motor isolator” is clear in view of the express language of claim 17 and the written description. Withdrawal of this rejection upon further consideration is respectfully requested.

Finally, claim 20 was also rejected for the stated reason that it is not clear what is meant by component isolator. As discussed with respect to claims 7 and 9, a “component isolator” is an element “having a spring constant and a damping constant”. As indicated above, the spring constant and damping constant of the component isolator may reduce transmission of vibration from the isolated component to the remainder of actuator components. In view of the foregoing, Applicants respectfully submit that the meaning of the term “component isolator” in the context of claim 20, would be readily understood by one having skill in the art. Applicants, therefore, respectfully request that the rejection of claim 20 under 35 U.S.C. §112 be withdrawn upon reconsideration.

Claim Amendments

The claims have been amended throughout consistent with the Examiner's indication of the allowable subject matter of claims 2-4, 8, 10-12, 14, and 19. Independent claim 1 has been amended herein to incorporate the subject matter of claim 2, which the Examiner has indicated to be allowable. Independent claim 13 has been amended to incorporate the subject matter of claim 14, which the Examiner has indicated to be allowable. Claims 3, 4, 7, 8, 10, 11, 16, and 19 have all been rewritten in independent form. Accordingly, claims 1, 3, 4, 7, 8, 10, 11, 16, and 19 are all believed to be in condition for allowance. Furthermore, Applicants believe that the rejections of claims 5, 7, 9, 15-18, and 20-22 under 35 U.S.C. §112 are overcome for the reasons discussed above.

Rejections Under 35 U.S.C. §102

Claims 1, 6, and 13 were rejected under 35 U.S.C. §102(b) as being anticipated by Drennen et al. (U.S. Patent No. 6,412,610). Independent claim 1 has been amended to incorporate the subject matter of claim 2, which the Examiner has indicated to be allowable. Accordingly, claim 1, as amended, is believed to be novel over Drennen et al. Withdrawal of the rejection of claim 1 under 35 U.S.C. §102 in view of this amendment is respectfully requested.

Claim 6 been canceled herein, rendering the rejection under 35 U.S.C. §102 moot.

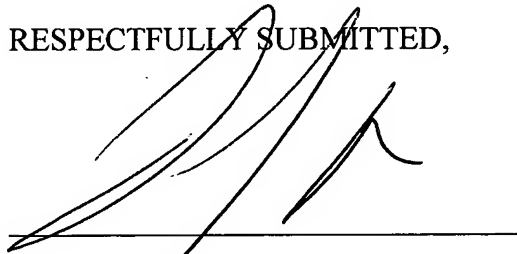
Claim 13 has been amended to incorporate the subject matter of claim 14, which that Examiner has indicated to be allowable. Accordingly, claim 13 is now believed to be novel over Drennen et al. Withdrawal of the rejection of claim 13 under 35 U.S.C. §102 in view of this amendment is respectfully requested.

Appln. No. 10/712,764
Amdt. dated March 14, 2005
In response to Office action mailed Dec. 14, 2004

Having overcome all of the outstanding rejections, it is respectfully submitted that the application is now in condition for allowance. Early and favorable action is respectfully solicited.

The Application has been amended herein to include eight (8) additional independent claims. Payment in the amount of \$1600 accompanies this response to provide for the fees associated with the additional independent claims. In the event that there are any fee deficiencies, or additional fees are payable, please charge, or credit any overpayment to, our Deposit Account No. 50-2121.

RESPECTFULLY SUBMITTED,

A handwritten signature in black ink, appearing to read 'Donald J. Perreault', is written over a horizontal line.

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Appl. No. 10/712,746
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In response to Office action mailed Dec. 14, 2004
Annotated Sheet Showing Changes Made

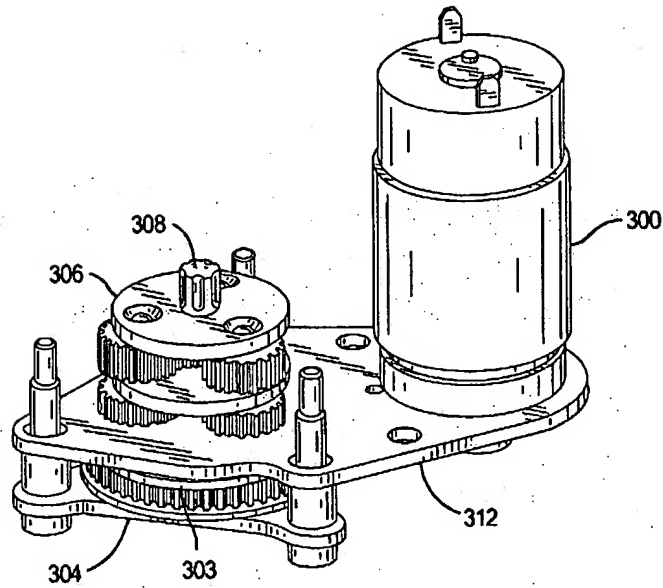


FIG. 6

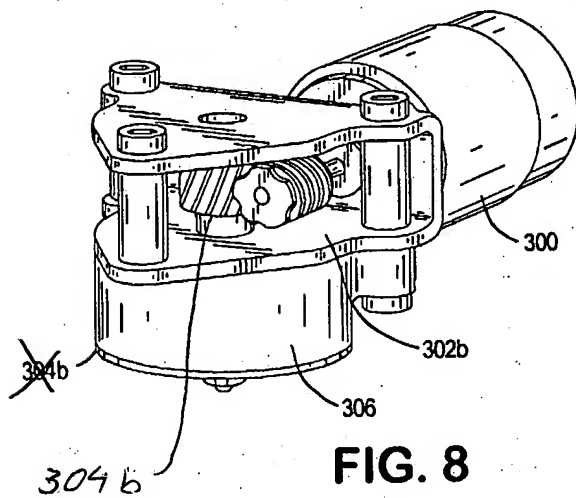


FIG. 8